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Protected Material: Monsanto Insurance Coverage Litigation

GERAGHTY & MILLER, INC.
Environmental Services

Ground Water Engineering Hydrocarbons Remediation Education

47

September 19, 1990

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To B.E. Hare	From W.L. Smull
Co. Monsanto	Co. Monsanto
Dept. I-2WV	Phone #
Fax # 314 694 6138	Fax #

VIA TELECOPIER

Mr. Warren Smull
Monsanto Company
800 N. Lindbergh Boulevard - G4WM
St. Louis, MO 6317

Re: Proposal for a Soil Boring Program at Sauget Sites-Area I Site G, Dead Creek - Sector B and Site M, Sauget,Illinois (Project No. 50212NY).

Dear Warren:

As requested, Geraghty & Miller, Inc. is providing this proposal for an investigation in Sauget Sites Area I Site G, Dead Creek - Sector B, and Site M in Sauget, Illinois (see Figure 1). The purpose of the study is to physically and chemically characterize soil conditions and provide a rough estimate of the volume of material that may be affected by hazardous organic compounds and metals. The data generated from the study will be used to determine the feasibility of excavating and landfilling the material offsite.

To assess the feasibility of removal, it will be necessary to classify the waste prior to disposal. Since these sites are not on Monsanto property, it is unlikely that the IEPA or USEPA would consider the soil/sediment at these sites as RCRA listed wastes; (for RCRA "land ban" purposes they will probably be regarded as "soil and debris.") Therefore, it is necessary to determine whether the soil/sediment is hazardous because of its characteristics and whether stabilization will be required prior to disposal. According to Chemical Waste Management's Northeast Regional Customer Service Manager (Ty Harder, personal communication, September 18, 1990), this is accomplished through the analysis of soil samples for reactivity, PCBs, and the list of constituents which are analyzed by the Toxicity Characteristic Leaching Procedure (TCLP) shown on Table 1. The results from these analyses will be used to determine whether the soil/sediment is a hazardous waste and whether it needs to be treated prior to disposal.

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SCOPE OF WORK

Site G

Site G is approximately 4.5 acres in site and has been used for disposal in the past. Scrap metal is present on the surface, along with demolition debris and scattered, corroded drums, some of which protrude from the surface. Two small pits contain oil and tar-like materials. In some areas, it appears that fly ash and cinders were used as cover material. A chain link fence surrounds the site to prevent direct contact with surface material. In 1987, E&E drilled 11 soil borings and converted six of them into shallow monitoring wells as part of its field activities. In addition, E&E performed a soil-gas study, collected surficial soil samples, and conducted a magnetometer survey and an EM conductivity survey. The results of these studies indicate that buried ferromagnetic material is present at this site and both surficial soil and subsurface soil has been impacted from past site activities. We propose the following investigation to determine if the soil at Site G can be disposed in an offsite landfill.

Previous soil sampling programs conducted by E&E in 1987 consisted of composite sampling over zones of 5 to 20 feet thick which were not consistent from boring to boring. Some of the samples included both saturated and unsaturated soil in the same composite sample. The existing data are not sufficient to determine the extent of the impact soil, nor will it satisfy the requirements for RCRA characteristic waste determination. Therefore, we propose to collect three soil samples from each of five soil borings and analyze them for the required parameters previously described. The soil samples at each location will be collected at two-foot intervals (0 to 2, 2 to 4, and 4 to 6 feet below grade) for a total of 15 samples. The samples will be collected using hand-auger equipment. All samples will be described by a Geraghty & Miller field geologist who will record sample location, depth, grain size distribution, and color. Each sample will also be screened in the field for the presence of volatile organic compounds (VOCs) using a photoionization detection instrument as part of our health and safety protocols. Each borehole will be sealed with a cement/bentonite grout and the borehole's location will be measured from a permanent landmark. These data will provide sufficient information to determine whether the soil will require pretreatment and it will also be used to provide a rough estimate of the volume of soil that may have been impacted.

Dead Creek - Sector B

Dead Creek - Sector B is located between Queeny Avenue and Judith Lane. The culverts at both ends for Sector B have been sealed to preclude inflow or outflow from this area. The banks of the creek are heavily vegetated and debris is visible in the area. The site is enclosed within a chain-line fence. In general, the creek area consists of a narrow channel about 5 feet wide which is flanked by a low bank on either side. The channel and low banks are enclosed by steep banks on either side of the creek. Precipitation that collects in the creek recharges the ground water below.

In 1987, E&E collected two surface water samples and five sediment samples from Sector B, however, the sampling locations were restricted to the north and south ends of the study area. The data from these sampling points indicates that past uses of the creek have impacted the site. Specifically, heavy metals and PCBs were evident in the sampling results. We propose the following investigation to determine if the soil/sediment from the creek will require pretreatment prior to disposal in an offsite landfill.

The existing data are not sufficient to determine the extent of the impacted soil, nor will it satisfy the requirements for a characteristic waste determination. Therefore, we propose to collected soil samples at ten locations within the creek bed, spaced approximately 200 feet apart, throughout the 2,000-foot length of Sector B for analysis of the required parameters previously described. The samples will also be collected at 2-foot intervals to 6 feet in depth (30 samples) as was described for Site G. The samples will be described, checked for VOCs in the field, and the boreholes will be sealed as previously discussed. These data will be used to evaluate offsite disposal options as well as provide a rough estimate of the volume of soil that may have been impacted.

It may be necessary to pump off standing water in the Creek in some areas to provide suitable sampling conditions. Assuming that the water can be pumped to a sewer and an access point is relatively near, direct pumping is recommended. Alternatively, if a direct discharge is not possible, we could start the boring program and work up to the area where the standing water is located, then transfer the water into the area of the Creek where the boring program has been completed.

Site M

Site M is a former sand and gravel pit excavated between 1945 and 1950. The pit is approximately 275 feet by 300 feet and is filled with water. E&E estimated the pit's depth to be 40 feet. Site M is connected to Sector B of Dead Creek at the southwest corner of the site, however, it is not known whether Site M is open to the water table. Other than miscellaneous trash, no other waste disposal was evident in the pit at the time of the E&E study. Access to the site is controlled by a chain-link fence. In 1987, E&E collected surface water samples and sediment samples from the pit, and soil-gas samples were collected from the pit's banks. The data from these sampling points indicates that past site activities may have impacted the area.

E&E previously collected two surface water samples and five sediment samples from Site M, although it is not clear where the sediment samples were collected. It appears the sediment samples were collected from the sides of the pit, based on their location map. These data indicate some impact from previous site use may have occurred. The existing data are not sufficient to determine the extent of the impacted soil, nor will it satisfy the requirements for a characteristic waste determination. Therefore, we propose to collect three sediment samples for analysis of the parameters previously described from three separate locations to obtain data on surficial sediment. However, this procedure will not provide a vertical profile of constituents that may be in the sediment. If remedial action is required for the sediment at Site M, a dredging operation may be necessary due to the depth of the pit, the volume of water in the pit, and the uncertainty as to whether the pit was excavated into the water table.

Prior to the start of the field investigation, Geraghty & Miller will develop the necessary work plans including a Quality Assurance Project Plan (QAPP), Field Sampling Plan (FSP), and Health and Safety Plan (HASP). It should be possible to prepare these documents within three weeks after receiving authorization to proceed.

Estimated costs for the project are attached and include preparing the work plans, completing the field investigation, and preparing a report detailing the soil boring and analytical program. The estimates assume that the work can be completed in level C protective equipment ~~and we will not be required to hire union personnel~~. We have also

assumed that the field geologists will be supplied by our St. Louis office to minimize travel and expense costs.

If you have any questions or require additional information, please do not hesitate to call me at (516) 391-5234.

Sincerely,

GERAGHTY & MILLER, INC.

Dennis Colton
Project Manager

Nicholas Valkenburg
Project Officer

DC/NV:rr
smul0212.ltr

MCA 156783

COST ESTIMATE

Sauget Sites G, M, and Dead Creek - Sector B
Sauget, Illinois

TASK 1: DEVELOPMENT OF QAPP, FSP, AND HASP

Geraghty & Miller, Inc. Fees

Senior Project Advisor 8 hours at $115 per hour	$ 920
Senior Scientist I 40 hours at $83 per hour	3,330
Staff Scientist I 40 hours at $65 per hour	2,600
Administration Support/Clerical 24 hours at $30 per hour	720
Technical Editor 8 hours at $49 per hour	392
Draftsperson 8 hours at $39 per hour	312
Geraghty & Miller, Inc. Expenses	
(reproduction, telephone, facsimile)	500
Task 1 Estimate:	$8,764

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TASK 2: FIELD INVESTIGATION AND PROJECT MANAGEMENT

Geraghty & Miller, Inc. Fees

Senior Project Advisor	
16 hours at $115 per hour	$ 1,840
Senior Scientist I	
24 hours at $83 per hour	1,992
Scientist III (two people)	
40 hours at $59 per hour	2,360
40 hours at $59 per hour	2,360

Geraghty & Miller, Inc. Expenses

Airfare - 1 round trip at $750 per trip	750
Ground Transportation - 1 round trip at $80 per trip	80
Hotel - 1 day at $65 per day	65
Meals - 1 day at $35 per day	35
- 6 days at $5 per day	30
Car Rental - 1 day $65 per day	65
Mileage (Personal Car) - 150 miles	45
Supplies: - Miscellaneous (shipping, telephone, facsimile, safety gear, field supplies)	$ 1,000
Subtotal:	$10,622

Laboratory Fees

- 48 soil/sediment samples and 2 matrix spikes for reactivity, PCBs, and the TCLP at $1400/sample	$70,000
- laboratory preparation and shipping	1,000
- 5 percent service charge	3,550
Subtotal:	$74,550
Task 2 Estimate:	$85,172

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TASK 3: REPORT PREPARATION

Geraghty & Miller, Inc. Fees

Senior Project Advisor 16 hours at $115 per hour	$ 1,840
Senior Scientist I 40 hours at $83 per hour	3,320
Scientist III 24 hours at $59 per hour	1,416
Draftsman 16 hours at $48 per hour	768
Technical Editor 8 hours at $48 per hour	392
Technician 16 hours at $38 per hour	608
Administrative Support/Clerical 30 hours at $30 per hour	900
Expenses (reproduction, telephone, facsimile)	1,000
Task 3 Estimate:	$ 10,244
Total Cost:	$105,000 (Rounded)

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Table 1. Federal Toxicity Characteristic Constituents and Regulatory Levels

METALS

CONSTITUENT	REGULATORY LIMIT* (mg/L)
Arsenic	5.0
Barium	100.0
Cadmium	1.0
Chromium	5.0
Lead	5.0
Mercury	0.2
Selenium	1.0
Silver	5.0

VOLATILE ORGANICS

CONSTITUENT	REGULATORY LIMIT* (mg/L)
Benzene	0.5
Carbon tetrachloride	0.5
Chlorobenzene	100.0
Chloroform	6.0
1,4-Dichlorobenzene	7.5
1,2-Dichloroethane	0.5
1,1-Dichloroethylene	0.7
Methyl ethyl ketone	200.0
Tetrachloroethylene	0.7
Trichloroethylene	0.5
Vinyl chloride	0.2

*Federal Register, March 29, 1990

Table 1. Federal Toxicity Characteristic Constituents and Regulatory Levels

SEMIVOLATILES

CONSTITUENT	REGULATORY LIMIT* (mg/L)
o-Cresol	200.0
m-Cresol	200.0
p-Cresol	200.0
Cresol (total)	200.0
2,4-Dinitrotoluene	0.13
Hexachlorobenzene	0.13
Hexachloro-1,3-butadiene	0.5
Hexachloroethane	3.0
Nitrobenzene	2.0
Pentachlorophenol	100.0
Pyridine	5.0
2,4,5-Trichlorophenol	400.0
2,4,6-Trichlorophenol	2.0

PESTICIDES/HERBICIDES

CONSTITUENT	REGULATORY LIMIT* (mg/L)
Chlordane	0.03
2,4-D	10.0
Endrin	0.02
Heptachor (and its hydroxide)	0.008
Lindane	0.4
Methoxychlor	10.0
Toxaphene	0.5
2,4,5-TP (Silvex)	1.0

*Federal Register, March 29, 1990

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GERAGHTY & MILLER, INC.
Environmental Services

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Telecopier # 516-249-0033

Date: 9/20/90

Time Sent: 8:55 Am

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To B.E. Vero	From W.L. Small
Co. Monsanto	Co. Monsanto
Dept. F2WV	Phone #
Fax # 314 694 6138	Fax #

...er No.: 617/932-7589

...ing Item(s):

Figure 1 for Dead Creek Proposal was omitted. Sorry for the inconvenience

Total No. of Pages: 2 (including this page)

Please call ______________ at 516-249-7600, Ext. ____, to verify you have received this document.

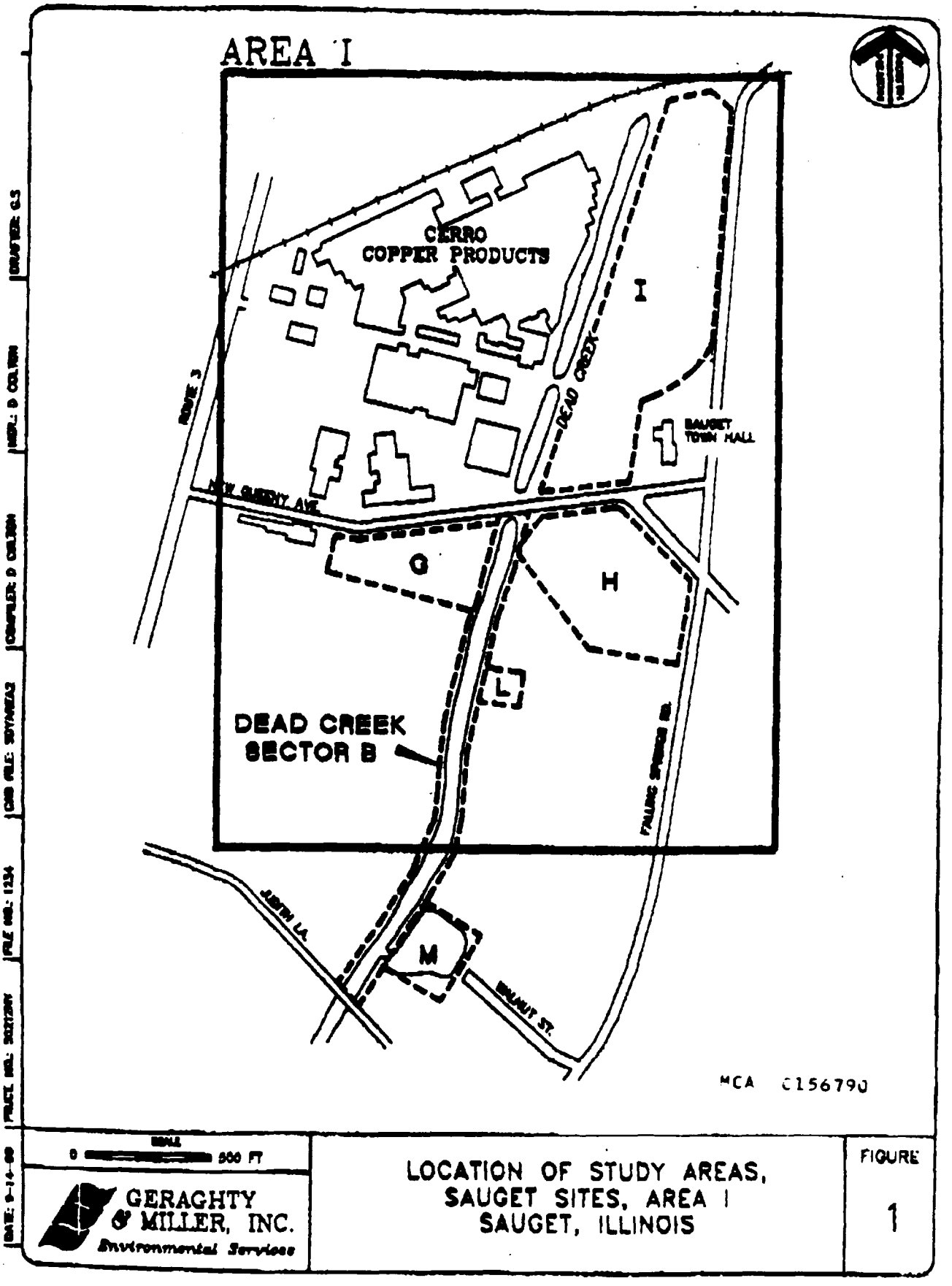
Or Direct Dial: 516-391-5236

G&M Project No.: 50212NY (Proposal - office 4 overhead)

cc: Karen Appel

MCA 0156789

Ground-Water Consultants | Geraghty & Miller Engineers | Hydrocarbon Services | Environmental Restoration | Water Information Center


AREA I
CERRO COPPER PRODUCTS
I
DEAD CREEK
ROUTE 3
SAUGET TOWN HALL
NEW GRANITE AVE.
G
H
DEAD CREEK SECTOR B
FALLING SPRINGS RD.
JUDITH LN.
M
WALNUT ST.
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SCALE
0 500 FT
GERAGHTY & MILLER, INC.
Environmental Services
LOCATION OF STUDY AREAS, SAUGET SITES, AREA I SAUGET, ILLINOIS
FIGURE
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